FARM BUSINESS MANAGEMENT

INFORMATION UPDATE

Manitoba
Agriculture
Farm Management

Date January, 1987

FARM PLANNING GUIDE

1987 CROP ESTIMATES

The projected crop costs enclosed in these two budgets have been prepared to assist you in developing your own production costs. The budgets assume continuous cropping.

The cash cost inputs associated with growing a crop in Manitoba are substantial. It is extremely important for a farm manager to do detailed calculations if he is to select the optimum crop combination that will maximize profits. Detailed planning is also necessary when estimating the amount of operating credit required to finance the inputs. The importance of good financial management can be emphasized by noting that a 400 hectare (1000 acre) farm requires somewhere in the vicinity of $80,000 for cash inputs alone.

The following budgets are estimates of the cost of producing several different crops in 1987. General departmental recommendations are assumed in using fertilizers and chemical inputs. The figures provide an economic evaluation of the crops and estimate the yields required to cover all costs plus give a return to labor, management and investment. To estimate a cash flow budget the actual payments on principal and interest may be substituted for the fixed costs. As well, an estimate has to be made of family living costs, funds required for capital purchases and a cost analysis of livestock enterprises on the farm if not a straight grain farm.

These budgets may be adjusted by putting in your own figures. As a producer you are encouraged to calculate your own costs of production for various crops. On each farm, costs and yields differ due to soil type, climatic conditions, and agronomic practices.

CROP PRODUCTION COSTS 1987

	Wheat	Barley	Canola	Flax	Rye
	$	$	$	$	$
OPERATING COSTS:					
1) Seed & Treatment	14.31	12.11	18.83	18.45	10.81
2) Fertilizer	54.67	54.67	57.31	29.48	46.42
3) Chemicals	45.69	40.76	24.70	34.58	6.18
4) Fuel	24.70	24.70	24.70	24.70	24.70
5) Machinery Operating Costs	16.06	16.06	16.06	16.06	16.06
6) Crop Insurance	16.06	14.33	27.66	18.15	15.68
7) Other Costs	13.59	13.59	13.59	13.59	13.59
8) Drying Costs					
9) Interest on Operating	11.10	10.57	10.97	9.30	8.01
TOTAL OPERATING COSTS . .	196.18	186.79	193.82	164.31	141.45
FIXED COSTS:					
10) Land Investment Costs	71.63	71.63	71.63	71.63	71.63
11) Machinery Depreciation	29.64	29.64	29.64	29.64	29.64
12) Machinery Investment	23.71	23.71	23.71	23.71	23.71
13) Storage Costs	7.04	7.04	7.04	7.04	7.04
14) Labor and Management	39.52	39.52	39.52	39.52	39.52
TOTAL FIXED	171.54	171.54	171.54	171.54	171.54
TOTAL COST	367.72	358.33	365.36	335.85	312.99

NOTE: The costs per hectare in this budget may not compare exactly with those

BREAKEVEN ANALYSIS

Price/Unit	$110/t	$73/t	$220/t	$196/t	$67/t
Breakeven Yield for Operating Costs	1.783 t	2.558 t	881 kg	839 kg	2.111 t
Breakeven Yield for Total Costs	3.343 t	4.908 t	1.661 t	1.714 t	4.671

IDELINES (DOLLARS PER HECTARE)

Corn $	Sunflowers $	Peas $	Lentils $	Buckwheat $	Navy Beans $	My Farm
42.60	29.61	55.44	51.59	24.68	105.75	
82.74	60.39	35.77	35.77	57.44	50.73	
98.43	24.70	29.64	39.52	24.70	134.62	
28.41	25.94	25.94	24.70	24.70	25.94	
22.23	19.76	18.53	18.53	16.06	19.76	
25.44	14.82	25.07	29.64	31.12	33.35	
14.82	14.82	14.82	14.82	13.59	14.82	
49.40	14.82					
21.84	12.29	12.31	12.87	11.54	23.10	
385.91	217.15	217.52	227.44	203.83	408.07	
8.92	74.10	83.98	79.04	71.63	88.92	
37.05	32.11	30.88	30.88	29.64	34.58	
29.64	25.69	24.70	24.70	23.71	27.66	
14.08	7.04	7.04	7.04	7.04	7.04	
39.52	39.52	39.52	39.52	39.52	39.52	
209.21	178.46	186.12	181.18	171.54	197.72	
595.12	395.61	403.64	408.62	375.37	605.79	

in the per acre budget due to rounding errors in converting from imperial to metric.

PER HECTARE YIELDS

$118/t	21¢/kg	$183/t	40¢/kg	$276/t	55¢/kg	
3.27 t	1.034 t	1.189 t	569 kg	738 t	742 kg	
.043 t	1.884 t	2.206 t	1.022 t	1.36 t	1.101 t	

CROP PRODUCTION COSTS 198

	Wheat	Barley	Canola	Flax	Rye
	$	$	$	$	$
OPERATING COSTS:					
1) Seed & Treatment	5.75	4.90	7.60	7.50	4.40
2) Fertilizer	22.25	22.25	23.25	12.00	19.00
3) Chemicals	18.50	16.50	10.00	14.00	2.50
4) Fuel	10.00	10.00	10.00	10.00	10.00
5) Machinery Operating Costs	6.50	6.50	6.50	6.50	6.50
6) Crop Insurance	6.50	5.80	11.20	7.35	6.35
7) Other Costs	5.50	5.50	5.50	5.50	5.50
8) Drying Costs					
9) Interest on Operating	4.50	4.30	4.45	3.75	3.25
TOTAL OPERATING COSTS . . .	79.50	75.75	78.50	66.60	57.50
FIXED COSTS:					
10) Land Investment Costs	29.00	29.00	29.00	29.00	29.00
11) Machinery Depreciation	12.00	12.00	12.00	12.00	12.00
12) Machinery Investment	9.60	9.60	9.60	9.60	9.60
13) Storage Costs	2.85	2.85	2.85	2.85	2.85
14) Labor and Management	16.00	16.00	16.00	16.00	16.00
TOTAL FIXED	69.45	69.45	69.45	69.45	69.45
TOTAL COST	148.95	145.20	147.95	136.05	126.95

BREAKEVEN ANALYSIS

Price/Unit or (tonne = t.)	$3.00/bu. ($110/t.)	$1.60/bu. ($73/t.)	$5/bu. ($220/t.)	$5/bu. ($196/t.)	$1.70/bu. ($67/t.)
Breakeven Yield for Operating Costs	26.5 bu.	47.3 bu.	15.7 bu.	13.3 bu.	33.8 bu.
Breakeven Yield for Total Costs	49.7 bu.	90.8 bu.	29.6 bu.	27.2 bu.	74.7 bu.

'IDELINES (DOLLARS PER ACRE)

Corn $	Sunflowers $	Peas $	Lentils $	Buckwheat $	Navy Beans $	My Farm
17.25	12.00	22.50	21.00	10.00	42.75	
33.90	24.45	14.30	14.30	23.05	20.30	
39.85	10.00	12.00	16.00	10.00	54.50	
11.50	10.50	10.50	10.00	10.00	10.50	
9.00	8.00	7.50	7.50	6.50	8.00	
10.30	6.00	10.15	12.00	12.60	13.50	
6.00	6.00	6.00	6.00	5.50	6.00	
20.00	6.00					
8.87	5.00	5.00	5.21	4.65	9.35	
156.67	87.95	87.95	92.01	82.30	164.90	
36.00	30.00	34.00	32.00	29.00	36.00	
15.00	13.00	12.50	12.50	12.00	14.00	
12.00	10.40	10.00	10.00	9.60	11.20	
5.70	2.85	2.85	2.85	2.85	2.85	
16.00	16.00	16.00	16.00	16.00	16.00	
84.70	72.25	75.35	73.35	69.45	80.05	
241.37	160.20	163.30	165.36	151.75	244.95	

PER ACRE YIELDS

$3.00/bu. ($118/t.)	9.5¢/lb. (21¢/kg.)	$5.00/bu. ($183/t.)	18¢/lb. (40¢/kg.)	$6.00/bu. ($276/t.)	25¢/lb. (55¢/kg.)	
52.2 bu.	926 lb.	17.6 bu.	511 lb.	13.7 bu.	660 lb.	
80.5 bu.	1686 lb.	32.7 bu.	919 lb.	25.3 bu.	979 lb.	

CROP BUDGET ASSUMPTIONS

1) Seed & Treatment

Per Hectare

Crop	Rate/ha	Price/Unit	Cost/ha
Wheat	84.2 kg	17¢/kg	$14.31
Barley	80.7 kg	15¢/kg	$12.11
* Canola	6.8 kg	88¢/kg	$ 5.98
Flaxseed	45 kg	41¢/kg	$18.45
Rye	78.6 kg	13.75¢/kg	$10.81
Corn	56,800 plants	$60.00/80,000	$42.60
Sunflowers	6.7 kg	$4.42/kg	$29.61
Peas	168 kg	33¢/kg	$55.44
Lentils	67 kg	77¢/kg	$51.59
Buckwheat	54 kg	45.7¢/kg	$24.68
Navy Beans	50.6 kg	$2.09/kg	$105.75

* Canola Seed treatment cost is in addition to the cost of seed: $12.85/ha

Per Acre

Crop	Rate/acre	Price/Unit	Cost/acre
Wheat	1.25 bu.	$4.60/bu.	$5.75
Barley	1.5 bu.	$3.25/bu.	$4.90
* Canola	6 lbs.	40¢/lb.	$2.40
Flaxseed	40 lbs.	18.75¢/lb.	$7.50
Rye	1.25 bu.	$3.50/bu.	$4.40
Corn	23,000 plants	$60.00/80,000	$17.25
Sunflowers	6 lbs.	$2.00/lb.	$12.00
Peas	2.5 bu.	$9.00/bu.	$22.50
Lentils	60 lbs.	35¢/lb.	$21.00
Buckwheat	1.0 bu.	$10.00/bu.	$10.00
Navy Beans	45 lbs.	95¢/lb.	$42.75

* Canola Seed treatment cost is in addition to the cost of seed: $5.20/acre

Fertilizer Price/kg	Nitrogen 44¢	$	Phosphorous 55¢	$	Potash 24¢	$	Sulfur 33¢	$	Cost/ ha($)
	Per Hectare								
Crop:	kg	Cost	kg	Cost	kg	Cost	kg	Cost	Cost
Wheat	78	34.32	37	20.35	--	--	--	--	54.67
Barley	78	34.32	37	20.35	--	--	--	--	54.67
Canola	90	39.60	22	12.10	--	--	17	5.61	57.31
Flaxseed	67	29.48	--	--	--	--	--	--	29.48
Rye	78	34.32	22	12.10	--	--	--	--	46.42
Corn	99	43.56	45	24.75	45	10.80	11	3.63	82.74
Sunflowers	67	29.48	40	22.00	22	5.28	11	3.63	60.39
Peas	--	--	40	22.00	34	8.16	17	5.61	35.77
Lentils	--	--	40	22.00	34	8.16	17	5.61	35.77
Buckwheat	62	27.28	40	22.00	34	8.16	--	--	57.44
Navy Beans	34	14.96	40	22.00	34	8.16	17	5.61	50.73

Fertilizer Price/acre	Nitrogen 20¢	$	Phosphorous 25¢	$	Potash 11¢	$	Sulfur 15¢	$	Cost/ acre($)
	Per Acre								
Crop:	lbs.	Cost	lbs.	Cost	lbs.	Cost	lbs.	Cost	Cost
Wheat	70	14.00	33	8.25	--	--	--	--	22.25
Barley	70	14.00	33	8.25	--	--	--	--	22.25
Canola	80	16.00	20	5.00	--	--	15	2.25	23.25
Flaxseed	60	12.00	--	--	--	--	--	--	12.00
Rye	70	14.00	20	5.00	--	--	--	--	19.00
Corn	90	18.00	40	10.00	40	4.40	10	1.50	33.90
Sunflowers	60	12.00	35	8.75	20	2.20	10	1.50	24.45
Peas	--	--	35	8.75	30	3.30	15	2.25	14.30
Lentils	--	--	35	8.75	30	3.30	15	2.25	14.30
Buckwheat	55	11.00	35	8.75	30	3.30	--	--	23.05
Navy Beans	30	6.00	35	8.75	30	3.30	15	2.25	20.30

NOTE: FERTILIZER RATES ARE BASED ON GENERAL CROP RECOMMENDATIONS FROM UNIVERSITY OF MANITOBA SOIL TESTING LAB.

3) Chemicals	Cost/Hectare	Cost/Acre
Wheat:		
Post-emergence Broadleaf	$11.11	$ 4.50
Wild Oat & Millet	34.58	14.00
Barley:		
Post-emergence Broadleaf	6.18	2.50
Wild Oat & Millet	34.58	14.00
Canola:		
Wild Oat & Millet	24.70	10.00
* Fungicide/Treatment	54.34	22.00
Flaxseed:		
Wild Oat & Millet	24.70	10.00
Post-emergence Broadleaf	9.88	4.00
Rye:		
Post-emergence Broadleaf	6.18	2.50
Corn:		
Pre-emergence	61.75	25.00
Post-emergence Broadleaf	9.51	3.85
Corn Borer/Treatment	27.17	11.00
* Pre-emergence Part Band	29.64	12.00
Sunflowers:		
Wild Oat & Millet	24.70	10.00
Peas:		
Wild Oat & Millet	24.70	10.00
Post-emergence Broadleaf	4.94	2.00
Lentils:		
Wild Oat & Millet	24.70	10.00
Post-emergence Broadleaf	14.82	6.00
Buckwheat:		
Wild Oat & Millet	24.70	10.00
Navy Beans:		
Wild Oat & Millet	24.70	10.00
Post - emergence Broadleaf	45.70	18.50
Fungicide/Treatment	64.22	26.00

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* NOT INCLUDED IN BUDGET

4) Fuel Costs:
   - Includes fuel used for field work, trucking inputs in and product out, and travel for farm business purposes.

5) Machinery & Operating Costs:
   - Includes costs for maintenance, repairs, licences and insurance.

6) Crop Insurance: (1987 rates)
   - Risk Area #6 at the high coverage dollar rate plus hail spot loss and part II insurance for wheat, barley, canola, flax and rye.
   - Risk Area #11 at the high coverage dollar rate on a "B" soil zone plus hail spot loss & part II insurance, for sunflowers peas, lentils, buckwheat, beans and Corn Area A.

7) Other Costs:
   - Includes overhead expenses - hydro, telephone and accounting.

8) Drying Costs:
   - Budget allocates costs only for corn and sunflowers. However, drying costs may be incurred in some years for other crops.

9) Interest On Operating:
   - Interest charges on operating costs are calculated at 12% for six months.

10) Land Investment Cost:
   - Based on the concept of opportunity cost. The budget uses the opportunity cost of land rental.

11) Depreciation: Assume 10% depreciation, no salvage value.

12) Investment Cost: 8% opportunity cost on the machinery investment per acre or hectare by crop.

Per Hectare

Crop	Investment	Depreciation	Investment Cost
Wheat	$296.40	$29.64	$23.71
Barley	$296.40	$29.64	$23.71
Canola	$296.40	$29.64	$23.71
Flaxseed	$296.40	$29.64	$23.71
Rye	$296.40	$29.64	$23.71
Corn	$370.50	$37.05	$29.64
Sunflowers	$321.10	$32.11	$25.69
Peas	$308.75	$30.88	$24.70
Lentils	$308.75	$30.88	$24.70
Buckwheat	$296.40	$29.64	$23.71
Navy Beans	$345.80	$34.58	$27.66

Per Acre

Crop	Investment	Depreciation.	Investment Cost
Wheat	$120	$12.00	$ 9.60
Barley	$120	$12.00	$ 9.60
Canola	$120	$12.00	$ 9.60
Flaxseed	$120	$12.00	$ 9.60
Rye	$120	$12.00	$ 9.60
Corn	$150	$15.00	$12.00
Sunflowers	$130	$13.00	$10.40
Peas	$125	$12.50	$10.00
Lentils	$125	$12.50	$10.00
Buckwheat	$120	$12.00	$ 9.60
Navy Beans	$140	$14.00	$ 9.60

13) Storage:

- Assumed a 5% depreciation cost and 8% investment cost.

- Farm storage requirements were assumed to be 30 bushels/acre costing $1/bushel for 75% of the storage and $1.25/bushel for 25% aerated storage.

- Storage requirements for corn was calculated at 60 bushels/acre.

Example - Wheat

Depreciation $\frac{\$30 - \$3}{20 \text{ years}} = \$1.35$

Investment $\frac{\$30 + \$3}{2} \times 8\% = \$1.32 + \$2.67 \times 75\% = \$2.00$

Aeration Bins (1/4)

Depreciation $\frac{\$37.50 - \$3.75}{20 \text{ years}} = \$1.69$

Investment $\frac{\$37.50 + \$3.75}{2} \times 8\% = \$1.65 + \$3.34 \times 25\% = \$0.85$

$\$2.85$

14) Labor & Management

- It depends upon the individual farm size, type of enterprises, and labor requirements.

  Assumed cost - $39.52/hectare ($16/acre).

  This calculation could be equal to paid wages plus personal and family withdrawals from the farm business.

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